



12

EUROPEAN PATENT APPLICATION

22 Application number: 86101517.0

51 Int. Cl.: G 11 B 7/013, G 11 B 7/24
// G11B17/34, G11B23/14,
G11B23/36, G11B23/42,
G11B27/19, G11B7/09

23 Date of filing: 06.02.86

30 Priority: 11.02.85 US 700735

71 Applicant: Gerber, Arthur M., 2864 Brannick Place, San
Diego CA 92122 (US)

43 Date of publication of application: 15.10.86
Bulletin 86/42

72 Inventor: Gerber, Arthur M., 2864 Brannick Place, San
Diego CA 92122 (US)

84 Designated Contracting States: CH DE FR GB LI NL

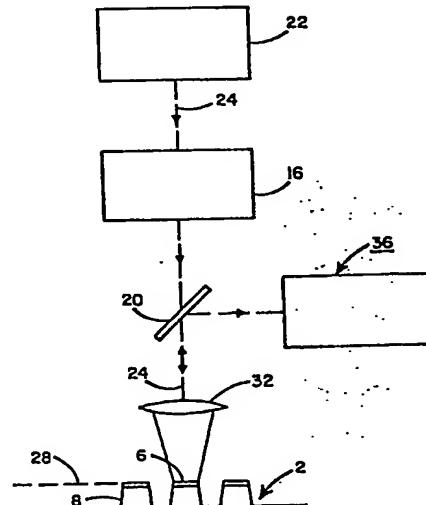
88 Date of deferred publication of search
report: 22.02.89 Bulletin 89/8

74 Representative: Strasse, Joachim, Dipl.-Ing. et al,
Strasse und Stoffregen European Patent Attorneys
Zweibrückenstrasse 17, D-8000 München 2 (DE)

54 System and method for recording digital information.

57 A digital recording medium (2) formed of a thermoplastic substrate having a regular array of microscopic optically-alterable mirrors (6) each supported by a mesa (8) projecting from one surface. The parallel rows of the mirrors are the same distance apart as the mirrors in each row. A layer of transparent plastic over the mirrors provides dust protection. The medium can be formed from a single transparent thermoplastic substrate with an array of indentations in a first surface. The bottom of each indentation is coated with a reflective material. When viewed from the opposite surface of the substrate, the indentations become mesas.

Recording is by exposure to a laser beam (22) that reduces the reflectivity of selected mirrors. After exposure to the recording laser beam, the mirrors retain enough reflectivity to be distinguishable from the intervening valleys. The mirrors serve as timing and tracking markers prior to and during recording, and during read-out. The area and location of each information bit is determined prior to recording: not as a result of the recording process. The mirrors are scanned diagonally (f, g, h) across the rows (d, e) that make up the array. Scanning is accomplished by reciprocating movement of the medium.



(Continuation next page)

EP
0 197 256 A3

